

Notice of Allowability

Application No.

10/750,103

Examiner

John H. Le

Applicant(s)

BAILEY ET AL.

Art Unit

2863



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/22/2005.
2. ☒ The allowed claim(s) is/are 3 and 45-51.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Response to Amendment

1. Applicant's amendment filed 11/22/2005 has been entered and carefully considered.

Claims 3, 45, 46, 47, 48, 49, 50, and 51 have been amended.

Claims 1-2, and 4-44 have been cancelled.

Reasons for Allowance

2. Claims 3, 45, 46, 47, 48, 49, 50, and 51 are allowed.
3. The following is a statement of reasons for the indication of allowable subject matter:

Please see the previous office action and applicant's argument filed on 07/15/2005 and 11/22/2005.

Regarding claim 3, none of the prior art of record teaches or suggests the combination of a system for measuring fluid in a container, wherein the system comprising: a computer operable to determine a state of a fluid in a container based on a signal representing an introduced vibration that has propagated at least partially around a container wall in more than one vertical propagation direction, wherein the one or more transducers comprises at least one air transducer operable to introduce a vibration to a container wall. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 45, none of the prior art of record teaches or suggests the combination of a system for measuring fluid in a container, wherein the system

comprising: a computer coupled to the second wireless communication device, the computer operable to: determine if a signal representative of the vibration at detection has been received; determine a fluid mass in the container based on the time for the vibration to propagate at least partially around the wall from the first transducer to the second transducer, determine a fluid volume based on the fluid mass, determine a fluid level based on the fluid volume, and control the amplitude and frequency of the vibration introduced by the first transducer. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 46, none of the prior art of record teaches or suggests the combination of a system for measuring fluid in a container, wherein the system comprising: a computer operable to determine a state of a fluid in a container based on a signal representing an introduced vibration that has propagated at least partially around a container wall in more than one vertical propagation direction, the one or more transducers are further operable to detect an introduced vibration that has propagated at least a majority of the way around a circumference of a container wall in more than one vertical propagation direction; and the computer is further operable to determine a state of a fluid in a container based on a signal representing an introduced vibration that has propagated at least a majority of the way around a circumference of a container wall in more than one vertical propagation direction. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found,

taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 47, none of the prior art of record teaches or suggests the combination of a method for measuring fluid in a container, the method comprising: determining a state of a fluid in the container based on the detection of the vibration, wherein detecting the vibration in the container wall after the vibration has propagated at least partially around the container wall in more than one vertical propagation direction comprises detecting the vibration after it has propagated at least a majority of the way around a circumference of the container wall. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 48, none of the prior art of record teaches or suggests the combination of a system for measuring fluid in a container, the system comprising: means for determining a state of a fluid in a container based on a signal representing an introduced vibration that has propagated at least partially around a container wall, wherein the means for detecting an introduced vibration that has propagated at least partially around a container wall in more than one vertical propagation direction and for generating a signal representing a vibration at detection is further operable to detect an introduced vibration that has propagated at least a majority of the way around a circumference of a container wall in more than one vertical propagation direction; and the means for determining a state of a fluid in a container based on a signal

representing an introduced vibration that has propagated at least partially around a container wall is further operable to determine a state of a fluid in a container based on a signal representing an introduced vibration that has propagated at least a majority of the way around a circumference of a container wall in more than one vertical propagation direction. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 49, none of the prior art of record teaches or suggests the combination of a method for measuring fluid in a container, the method comprising: determining a state of a fluid based on the signal, wherein receiving a signal representing a vibration detected after being introduced to and propagating at least partially around a container wall in more than one vertical propagation direction comprises receiving a signal representing a vibration detected after being introduced to and propagating at least a majority of the way around a circumference of a container wall in more than one vertical propagation direction. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 50, none of the prior art of record teaches or suggests the combination of a system for measuring fluid in a container, the system comprising: a computer operable to: determine a state of a fluid based on the signal, wherein the computer is further operable to determine a state of a fluid in a container based on a

signal representing a vibration detected after being introduced to and propagating at least a majority of the way around a circumference of a container wall in more than one vertical propagation direction. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 51, none of the prior art of record teaches or suggests the combination of an article comprising a machine-readable medium storing instructions operable to cause one or more machines to perform operations comprising: determining a state of a fluid based on the signal, wherein determining a state of a fluid based on the signal comprises determining a state of a fluid in a container based on a signal representing a vibration detected after being introduced to and propagating at least a majority of the way around a circumference of a container wall in more than one vertical propagation direction. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John H. Le whose telephone number is 571 272 2275. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on 571 272 2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

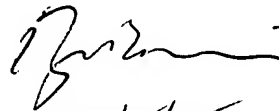
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John H. Le

Patent Examiner-Group 2863

December 1, 2005

BRYAN BUI
PRIMARY EXAMINER



12/15/05